



U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 SIXTH AVENUE
SEATTLE, WASHINGTON 98101

1.1.1

JUL 23 1987

REPLY TO
ATTN OF:

HW-113

Mr. and Mrs. D.R. Brown
Homes Hide-A-Way
2506 East Lewis
Pasco, Washington 99301

Dear Mr. and Mrs. Brown:

The U.S. Environmental Protection Agency (EPA), through Ecology and Environment, Inc. (E&E), collected a ground water sample from your drinking water well on March 18, 1987. The sample was analyzed for approximately 150 compounds on EPA's Target Compound List. According to EPA's regional toxicologist, the results show that the chemical concentrations are at levels which do not pose an unacceptable health risk.

Most of the substances tested for were not detected in the water sample. The substances that were detected are listed on the enclosed sheet.

The sodium value exceeds the EPA guidance level of 20,000 micrograms per liter (parts per billion). Persons with a genetic predisposition to hypertension, hypertensive patients, dialysis patients, and others on sodium restrictive diets should consult with their physician concerning these findings. Pregnant women should also consult their physician.

If you have any questions, please telephone me at (206) 442-2712.

Sincerely,

Lori Cohen
Superfund Site Manager

Enclosure

cc: Stan Vendetti, Benton-Franklin County Health District

USEPA SF



1452361

SAMPLING RESULTS

Sample Location: Hommes Hide-A-Way
Pasco, Washington

Sample Date: March 18, 1987

Substance	Level Detected (ug/l *)	EPA Guideline or Standard (ug/l *)
<hr/>		
Arsenic	2	50
Barium	78	1000
Cadmium	0.3	10
Calcium	63060	No standard exists
Chromium	9	50
Copper	14	1000
Iron	139 (estimate)	300
Magnesium	18670	No standard exists
Manganese	7	50
Potassium	5251	No standard exists
Selenium	2	10
Sodium	27170	20000
Thallium	2	No standard exists
Vanadium	12.4	No standard exists
Zinc	316	5000

* - The units for all the data presented here are: ug/l = micrograms per liter (parts per billion)

For the compounds for which there is currently no standard, EPA's regional toxicologist believes these levels do not pose an unacceptable health risk.

TABLE 8

PASCO SANITARY LANDFILL, PASCO, WASHINGTON
 SUMMARY OF VOLATILE ORGANIC ANALYTICAL RESULTS FOR
 DRINKING WATER WELL SAMPLES
 MARCH 18-20, 1987
 (ug/l)

Analyte	Water Supply Well (On-site)	Bonnie Brae	Buxbaum	Hommes	New Yenney	Old Yenney	Rada	Savage
1,1-Dichloroethane	5.0 U	2.1 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	5.0 U	2.6 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

U - The material was analyzed for, but was not detected. The associated numerical value is the laboratory's reported sample quantitation limit.

J - The associated numerical value is an estimated quantity because quality control criteria were not met or the reported value is less than the contract required detection limit (CRDL).

B - The tentatively identified compound was found in the laboratory's analytical method blank.

TABLE 9

PASCO SANITARY LANDFILL, PASCO, WASHINGTON
SUMMARY OF TOTAL INORGANIC ANALYTICAL RESULTS FOR
DRINKING WATER WELL SAMPLES
MARCH 18-20, 1987
(ug/l)

Analyte	Water Supply Well (On-site)	Bonnie Brae	Buxbaum	Hommes	New Yenney	Old Yenney	Rada	Savage
Barium	71.0 J	56.0	73.0	78.0	85.0	81.0 J	99.0	108.0
Calcium	51970.0	67140.0	63830.0	63060.0	65140.0	53650.0	68710.0	77150.0
Chromium	6.0	9.0	9.0	9.0	8.0	4.0	9.0	9.0
Cobalt	6.8 U	8.0	8.0	6.8 U	6.8 U	7.0	9.0	8.0
Copper	5.9 U	5.9 U	5.9 U	14.0	15.0	32.0	5.9 U	6.0
Iron	25.0 J	166.0 J	195.0 J	139.0 J	398.0 JF	42.0 J	109.0 J	78.0 J
Magnesium	20750.0	22910.0	22780.0	18670.0	21940.0	21820.0	24210.0	25960.0
Manganese	2.0	2.0	3.0	7.0	4.0	5.0	2.0	2.0
Potassium	5593.0	8020.0	7508.0	5251.0	8122.0	7541.0	8341.0	9010.0
Sodium	32960.0	36350.0	37620.0	27170.0	37550.0	37760.0	39410.0	39880.0
Vanadium	18.4	21.6	22.6	12.4	21.9	17.1	20.3	19.2
Zinc	122.0	78.0	50.0	316.0	300.0	70.0	99.0	214.0

U - The material was analyzed for, but was not detected. The associated numerical value is the laboratory's reported sample quantitation limit.

J - The associated numerical value is an estimated quantity because quality control criteria were not met or the reported value is less than the contract required detection limit (CRDL).

F - The concentration of this element exceeds either the Primary or Secondary Drinking Water Standard listed in the current National Primary Drinking Water Rules and Regulations.

TABLE 10

PASCO SANITARY LANDFILL, PASCO, WASHINGTON
 SUMMARY OF DISSOLVED INORGANIC ANALYTICAL RESULTS FOR
 DRINKING WATER WELL SAMPLES
 MARCH 18-20, 1987
 (ug/l)

Analyte	Water Supply Well (On-site)	Bonnie Brae	Buxbaum	Homes	New Yenney	Old Yenney	Rada	Savage
Arsenic	4.0	5.0	6.0	2.0	6.0	1.0 U	8.0	1.0 U
Cadmium	0.2 U	0.2 U	0.2 U	0.3	0.6	0.2 U	0.2 U	0.6
Copper	10.0	3.0	1.0	10.0	1.0 U	40.0	5.0	1.0 U
Thallium	2.0	2.0	3.0	2.0	1.0	7.0	2.0	2.0
Nickel	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	7.0	5.0 U	5.0 U
Zinc	130.0	79.0	46.0	285.0	286.0	47.0	130.0	227.0
Selenium	1.0	3.0	2.0	2.0	1.0	1.0	1.0	1.0 U

U - The material was analyzed for, but was not detected. The associated numerical value is the laboratory's reported sample quantitation limit.

TABLE

- 1 Sampling Results, Water Supply Well
- 2 Summary of Volatile Organic Analytical Results for Ground Water Monitoring Well Samples
- 3 Summary of Semi-Volatile (BNA) Analytical Results for Ground Water Monitoring Well Samples
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- 10 Summary of Dissolved Inorganic Analytical Results for Drinking Water Well Samples

TABLE 1

PASCO SANITARY LANDFILL, PASCO, WASHINGTON
 SAMPLING RESULTS, WATER SUPPLY WELL
 MARCH 19, 1987

Substance	Level Detected (ug/l *)	EPA Guideline or Standard (ug/l *)
Arsenic	4	50
Barium	71 (estimate)	1000
Calcium	51970	No standard exists
Chromium	6	50
Copper	10	1000
Iron	25 (estimate)	300
Magnesium	20750	No standard exists
Manganese	2	50
Potassium	5593	No standard exists
Selenium	1	10
Sodium	32960	20000
Thallium	2	No standard exists
Vanadium	18.4	No standard exists
Zinc	130	5000

* - The units for all the data presented here are: ug/l = micrograms per liter (parts per billion)

For the compounds for which there is currently no standard, EPA's regional toxicologist believes these levels do not pose an unacceptable health risk.

TABLE 2

PASCO SANITARY LANDFILL, PASCO, WASHINGTON
SUMMARY OF VOLATILE ORGANIC ANALYTICAL RESULTS FOR
GROUND WATER MONITORING WELL SAMPLES
MARCH 18-20, 1987
(ug/l)

Analyte	EE1 (control well)	EE2	EE3	EE4	EE5	EE6	EE7	EE8	JUB (control well)	JUB1	JUB2	JUB3	JUB4
1,1-Dichloroethene	5.0U	5.0U	110.0 F	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	5.7	5.0U	5.0U
1,1-Dichloroethane	5.0U	5.0U	410.0	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	29.0	5.0U	5.0U
Trans-1,2-Dichloroethene	5.0U	5.0U	210.0	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	15.0	5.0U	5.0U
Chloroform	5.0U	5.0U	54.0	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	13.0	5.0U	5.0U
1,1,1-Trichloroethane	5.0U	5.0U	1500.0 F	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	89.0	5.0U	5.0U
Trichloroethene	5.0U	5.0U	1900.0 F	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	110.0	5.0U	5.0U
Benzene	5.0U	5.0U	32.0 J F	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U
4-Methyl-2-Pentanone	10.0U	10.0U	1600.0	10.0U	10.0U	10.0U	10.0U	10.0U	10.0U	10.0U	10.0U	10.0U	10.0U
Tetrachloroethene	5.0U	5.0U	72.0	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	2.9 J	5.0U	5.0U
Toluene	5.0U	5.0U	1600.0	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U
Ethyl Benzene	5.0U	5.0U	160.0	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U
Total Xylenes	5.0U	5.0U	600.0	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U

U - The material was analyzed for, but was not detected. The associated numerical value is the laboratory's reported sample quantitation limit.

J - The associated numerical value is an estimated quantity because quality control criteria were not met or the reported value is less than the contract required detection limit (CRDL).

B - The tentatively identified compound was found in the laboratory's analytical method blank.

F - The concentration of this element exceeds either the Primary or Secondary Drinking Water Standard listed in the current National Primary Drinking Water Rules and Regulations.

TABLE 3

PASCO SANITARY LANDFILL, PASCO, WASHINGTON
SUMMARY OF SEMI-VOLATILE ANALYTICAL RESULTS FOR
GROUND WATER MONITORING WELL SAMPLES
MARCH 18-20, 1987
(ug/l)

Analyte	EE1 (control well)	EE2	EE3	EE4	EE5	EE6	EE7	EE8	JUB (control well)	JUB1	JUB2	JUB3	JUB4
1,2-Dichlorobenzene	10.0U	10.0U	3.5 J	10.0U	10.0U	10.0U	10.0UJ	10.0U	10.0U	10.0U	10.0U	10.0UJ	10.0U
2-Methylphenol	10.0U	10.0U	4.9 JM	10.0U	10.0U	10.0U	10.0UJ	10.0U	10.0U	10.0U	10.0U	10.0UJ	10.0U
Isophorone	10.0U	10.0U	4.3 JM	10.0U	10.0U	10.0U	10.0UJ	10.0U	10.0U	10.0U	10.0U	10.0UJ	10.0U
Naphthalene	10.0U	10.0U	1.7 JM	10.0U	10.0U	10.0U	10.0UJ	10.0U	10.0U	10.0U	10.0U	10.0UJ	10.0U

U - The material was analyzed for, but was not detected. The associated numerical value is the laboratory's reported sample quantitation limit.

J - The associated numerical value is an estimated quantity because quality control criteria were not met or the reported value is less than the contract required detection limit (CRDL).

M - Mass spectral criteria for positive identification were not met. However, in the opinion of the laboratory, the identification is correct based on the analyst's professional judgement.

TABLE 4

PASCO SANITARY LANDFILL, PASCO, WASHINGTON
 SUMMARY OF TENTATIVELY IDENTIFIED COMPOUND RESULTS FOR
 GROUND WATER MONITORING WELL SAMPLES
 MARCH 18-20, 1987
 (ug/l)

Compound	EE3	JUB2
Methane, dichlorofluoro	11 J	
Ethane, 1,1,2-trichloro-1,2, 2-trifluoro	65 J	8 J
Unknown Hydrocarbon	5 J	
Benzene, dimethyl	84 J	
Benzene, (1-methylethyl)	4 J	
Benzene, propyl	8 J	
Benzene, ethyl-methyl-	38 J	
Benzene, trimethyl	15 J	
Benzene, trimethyl	23 J	
Benzene, trimethyl	7 J	
Cyclohexanone, 3,3,5- trimethyl-	23 J	
2-Cyclohexen-1-one, 3,5,5-trimethyl	11 J	

J - The associated numerical value is an estimated quantity because quality control criteria were not met or the reported value is less than the contract required detection limit (CRDL).

Several compounds were detected but not identified. Please contact the EPA for more information.

TABLE 5

PASCO SANITARY LANDFILL, PASCO, WASHINGTON
 LABORATORY DETECTION LIMITS FOR TOTAL AND DISSOLVED
 INORGANIC ANALYSES FOR SAMPLES
 COLLECTED ON MARCH 18-20, 1987
 (ug/l)

Analyte	Instrument Detection Limit
<u>TOTAL</u>	
Aluminum	31
Antimony	20
Arsenic	2.1
Barium	0.9
Beryllium	0.2
Cadmium	4.3
Calcium	24
Chromium	3.7
Cobalt	6.8
Copper	5.9
Iron	9.2
Lead	2.0
Magnesium	40
Manganese	0.6
Mercury	0.2
Nickel	23
Potassium	948
Selenium	1.9
Silver	5.1
Sodium	20
Thallium	2.8
Tin	17
Vanadium	3.1
Zinc	1.3
<u>DISSOLVED</u>	
Arsenic	1
Beryllium	0.2
Cadmium	0.2
Chromium (Total)	1
Chromium (Hexavalent)	1
Copper	1
Lead	1
Thallium	1
Nickel	5

TABLE 5 (Cont.)

PASCO SANITARY LANDFILL, PASCO, WASHINGTON
LABORATORY DETECTION LIMITS FOR TOTAL AND DISSOLVED
INORGANIC ANALYSES FOR SAMPLES
COLLECTED ON MARCH 18-20, 1987
(ug/l)

Analyte	Instrument Detection Limit
<u>DISSOLVED</u>	
Silver	0.2
Zinc	1
Antimony	1
Selenium	1
Mercury	0.05

Instrument detection limits vary between total and dissolved inorganic analyses because the analyses were completed by different laboratories utilizing different instruments.

TABLE 6

PASCO SANITARY LANDFILL, PASCO, WASHINGTON
SUMMARY OF TOTAL INORGANIC ANALYTICAL RESULTS FOR
GROUND WATER MONITORING WELL SAMPLES
MARCH 18-20, 1987
(ug/l)

Analyte	EE1 (control well)	EE2	EE3	EE4	EE5	EE6	EE7	EE8	JUB (control well)	JUB1	JUB2	JUB3	JUB4
Aluminum	69.0	31.0U	31.0U	31.0	44.0	35.0	41.0	34.0	156.0	36.0	31.0U	31.0U	31.0U
Barium	71.0	70.0	138.0 J	70.0	61.0	70.0	65.0	74.0	62.0	60.0 J	73.0 J	70.0 J	71.0 J
Beryllium	0.3UJ	0.5UJ	0.2UJ	0.3UJ	0.2UJ	0.2UJ	0.2UJ	0.2UJ	0.2UJ	0.3UJ	0.2	0.3UJ	0.3UJ
Calcium	56900.0	65070.0	93710.0	58660.0	57380.0	57340.0	57070.0	57030.0	56260.0	55000.0	58470.0	54770.0	61830.0
Chromium	11.0	6.0	6.0	9.0	9.0	13.0	8.0	8.0	8.0	8.0	6.0	6.0	8.0
Cobalt	6.8U	6.8U	6.8U	6.8U	6.8U	6.8U	6.8U	7.0	6.8U	6.8U	8.0	6.8U	8.0
Iron	340.0 JF	173.0	11030.0 JF	150.0 J	131.0 J	315.0 JF	123.0 J	156.0 J	510.0JF	103.0	20.0 J	22.0 J	40.0 J
Magnesium	21910.0	21070.0 JF	22990.0	21040.0	21790.0	21940.0	21700.0	21810.0	21870.0	20670.0	21370.0	20950.0	20990.0
Manganese	4.0	2.0	1144.0 F	2.0	2.0	2.0	1.0	2.0	7.0	4.0	1.0	1.0	4.0
Potassium	6688.0	8005.0	8649.0	7807.0	6737.0	6635.0	6667.0	6766.0	6391.0	7253.0	7408.0	6711.0	7122.0
Sodium	33960.0	33270.0	30920.0	34830.0	34630.0	34870.0	34850.0	34750.0	34310.0	35070.0	35650.0	35140.0	34260.0
Vanadium	24.3	21.2	3.7	25.0	23.3	23.0	21.3	22.6	21.5	22.5	20.5	19.4	21.5

U - The material was analyzed for, but was not detected. The associated numerical value is the laboratory's reported sample quantitation limit.

J - The associated numerical value is an estimated quantity because quality control criteria were not met or the reported value is less than the contract required detection limit (CRDL).

F - The concentration of this element exceeds either the Primary or Secondary Drinking Water Standard listed in the current National Primary Drinking Water Rules and Regulations.

TABLE 7

PASCO SANITARY LANDFILL, PASCO, WASHINGTON
SUMMARY OF DISSOLVED INORGANIC ANALYTICAL RESULTS FOR
GROUND WATER MONITORING WELL SAMPLES
MARCH 18-20, 1987
(ug/l)

Analyte	EE1 (control well)	EE2	EE3	EE4	EE5	EE6	EE7	EE8	JUB (control well)	JUB1	JUB2	JUB3	JUB4
Arsenic	9.0	4.0	1.0	7.0	1.0	5.0	8.0	6.0	7.0	5.0	7.0	1.0U	7.0
Cadmium	0.2	0.2U	0.2U	0.7	0.4	0.2U	0.2U	0.2U	0.5	0.2U	0.2U	0.8	0.2U
Chromium	1.0U	1.0U	3.0	1.0U	8.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U
Copper	1.0	24.0	10.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0	41.0	10.0	9.0	10.0
Thallium	2.0	2.0	2.0	1.0	1.0	2.0	1.0	2.0	2.0	2.0	3.0	3.0	2.0
Nickel	5.0U	9.0	5.0U	5.0U	7.0	5.0U	5.0U	5.0U	5.0U	5.0U	5.0U	7.0	5.0U
Antimony	3.0	1.0	2.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0	1.0U	1.0	2.0	1.0U
Selenium	3.0	1.0	1.0	4.0	1.0	2.0	1.0U	1.0U	1.0U	1.0	2.0	2.0	1.0

U - The material was analyzed for, but was not detected. The associated numerical value is the laboratory's reported sample quantitation limit.